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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,470	07/01/2003	Atsushi Yasuno	03500.017390.	1051

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER	
STOUFFER, KELLY M	
ART UNIT	**PAPER NUMBER**
1762	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/609,470	YASUNO, ATSUSHI	
	Examiner	Art Unit	
	Kelly Stouffer	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12 March 2007 has been entered.

Response to Arguments

2. The examiner acknowledges the cancellation of claims 15-25 in the response filed 12 March 2007.

3. Applicant's arguments, filed 12 March 2007, with respect to the 35 USC 112 1st paragraph rejection of the claims have been fully considered and are persuasive. The 35 USC 112 1st paragraph rejection of claims 1-12 and 14 has been withdrawn.

4. Applicant's arguments filed 12 March 2007 with respect to the prior art rejections of the claims have been fully considered but they are not persuasive.

In response to applicant's arguments against Moleshi individually, one cannot show nonobviousness by attacking references individually where the rejections are

based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Moleshi in view of Chen teaches the claim limitations of transporting the substrate through the reactor and using discharge means disposed within the reactor (see previous office action and below for specific citations).

The applicant further argues that Moleshi in view of Chen does not teach the amended claim limitation of switching discharge means when film formation temperature is above a preset temperature. However, the multi-switch processing apparatus of Moleshi is based upon energy sources (column 8 lines 1-10), and the process activation switch for the switching discharge means may be substrate temperature (column 8 lines 19-25) that operates with a preset temperature at its 'on' state and turns 'off' and switches at a predetermined energy level, or above a preset temperature (column 8 lines 30-55).

Therefore, the prior art rejections of the previous office action are maintained and are repeated here.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moleshi (US 5273609) in view of Chan (US 5653811).

Regarding claims 1-4, Moleshi includes a film formation process for controlling film formation temperature to overcome thermal stress limitations (column 1 lines 49-55 and column 6 lines 3-21) in which a source gas is fed into a discharge space of a reactor and electric power is applied to generate discharge in the discharge space to decompose the source gas, forming a deposited film on a substrate by switching electric power between a first and second discharge means to form a film with semiconductor layers of the same conductivity (columns 7-8 and 10-11 et seq.) The multi-switch processing apparatus of Moleshi is based upon energy sources (column 8 lines 1-10), and the process activation switch for the switching discharge means may be substrate temperature (column 8 lines 19-25) that operates with a preset temperature at its 'on' state and turns 'off' and switches at a predetermined energy level, or above a preset temperature (column 8 lines 30-55). Moleshi does not include using a device that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor. Chan teaches using a device

that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor in order to sequentially treat more than one substrate and use a plasma source attached to the reactor the produced plasmas from specific gases (column 4 lines 8-31 and Figures 5 and 6).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Moleshi to include using a device that has capabilities for moving the substrate through the reactor during film formation to be coated by discharge means disposed within the reactor as taught by Chan in order to sequentially treat more than one substrate and use a plasma source attached to the reactor the produced plasmas from specific gases.

Regarding claims 5-12 and 14, the process of Moleshi uses multiple plasma sources and senses multiple conditions such as temperature, time, voltage, and current which activate switches that turn the plasma source from one to the other (column 4 lines 5-43, column 8 lines 10 – column 12 line 36, and Figure 2).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelly Stouffer whose telephone number is (571) 272-2668. The examiner can normally be reached on Monday - Thursday 7:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kelly Stouffer
Examiner
Art Unit 1762

kms

FRED J. PARKER
PRIMARY EXAMINER